DATE: May 21, 1976

TO : Joshua Lederberg

FROM : Paul Basch

SUBJECT: Comment on Gus Nossal's working paper on basic biomedical research

Thank you for sending this paper. I heard Nossal when he was here and knew of his, and your, interest in this WHO program.

I am not certain what is meant by "basic biomedical research". Nossal uses this as roughly synonymous with what he calls "high technologies". I think such a view is limited, and in this context, may not lead to the best use of resources. Nossal early on dismisses current knowledge as inadequate for planning of intelligent intervention and proceeds to list a series of laboratory investigations that he finds desirable. In the first place Nossal does not credit the range of knowledge currently available, much of it in the fields he favors. Secondly, a great deal can be done with relatively primitive biomedical information provided that motivation and determination are present: witness the enormous strides against schistosomiasis and many other diseases made in the People's Republic of China. The basic life cycles of all parasites involved in these diseases is well known, and means to combat them are at hand but are not being applied. Nossal favors the development of some sort of pharmaceutical or immunological innovation hoping for the serendipitous event that will lead to control of these tropical diseases; but in fact there is doubt that these diseases are amenable to this type of technological attack. Guidelines for all health work in developing countries, particularly in Africa, always stress cheapness of any control scheme as a prime consideration. I fear that the procedures (e.g., immunoglobulin coated liposomes) that Nossal advocates developing, even if effective, will never be within the financial reach of countries needing them. Thirdly, basic research is here too narrowly defined and to my thinking is much too trendy - Nossal wants "the keenest minds" in molecular biology, cell biology, genetics, and cellular immunology to undertake research in parasitism. I cannot object - I think that would be very desirable, but this is certainly not an exhaustive list of basic research specialties. Work must be done in sociocultural studies of people's exposures, in many aspects of ecology, management of health services programs, education of the public, and numerous other fields, including clinical medicine, in which research can be just as basic, just as valid, and just as badly needed (perhaps more so) than in the sophisticated laboratory sciences to which Nossal's report is limited. Fourthly, no recognition is given to socioeconomic factors in control of those diseases which are considered to be purely technological problems. But malaria, hookworm disease, yellow fever, cholera, and other so-called "tropical diseases" were all rampant in the United States in years past and disappeared not because of any great medical advances, but through improvements in the general economic situation.

For these reasons I find Nossal's list of projects to be limited, detached from real needs, and showing an unwarranted bias towards expensive and chancy technology. It is, basically, elitist and as such may run into political fire from proponents of simpler and less costly approaches. Another example of Nossal's unintended elitism is in his mention (p. 18) of local trainees "chiefly at post-doctoral level" to work in the research laboratories. Where will the African post-docs come from?

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Why will field workers not be trained? At a time when the WHO is making a great push towards breaking down traditional professional dominances, and to training of all sorts of primary health workers, this proposal will be viewed with some reservation in Geneva. I refer you to recent speeches by Halfdan Mahler, Director-General of WHO, on the subjects of demystification of medicine and reduction of what he terms "techniques for the sheer cleverness of them" - I have copies if you want them.

All of this is not to say that I oppose the general lines of approach advocated by Nossal. In fact I am working in my own lab on exactly some of the things he stresses: growth of parasites in invertebrate tissue cultures, and immunologic approaches to schistosomiasis. I believe that Nossal's concepts of basic research as applied to tropical medicine are basically those of a laboratory theoretician with insufficient appreciation of realities in the field.